

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims

1-24. (Cancelled).

25. (New) A method for a cellular mobile communications system, comprising the steps of:

selecting an active set of base stations from a plurality of base stations, wherein each base station in said active set is capable of providing parallel radio links with a mobile station;

transmitting a packet uplink from the mobile station;

transmitting, from each of the base stations of the active set to the mobile station, a measure of the quality on the radio uplink made during receipt of said packet;

selecting one radio base station from the active set of base stations based upon said quality measures;

transmitting information on the selected base station uplink from the mobile station; and,

forwarding the data packet on a fixed link from the selected radio base station.

26. (New) The method according to claim 25, wherein all the active set base stations provide parallel radio downlinks to the mobile station.

27. (New) The method of claim 25, wherein the measure of the radio uplink quality is an acknowledgement sent in response from one or more of the active set radio base stations upon said packet being received.

28. (New) The method of claims 25, wherein the measure of the radio uplink quality is a transmitted power command.

29. (New) The method of claim 25, wherein the measure of the radio link quality is a signal to interference ratio.

30. (New) The method of claim 25, wherein the selecting step is made before transmission of said packet and the link quality predicting step is based on the measure received by the mobile station with respect to one or more packets transmitted previously to said packet.

31. (New) The method according to claim 25, wherein said packet is segmented into two or more segments for transmission in subsequent radio frames and the selected base station reassembles the segments into said packet.

32. (New) The method of claim 27, wherein one or more base stations that have positively acknowledged all previously transmitted segments of said packet are the only ones designated for reception of subsequent segments of said packet.

33. (New) A mobile station for use in a cellular communications system, comprising:

means for transmitting a packet to be received by two or more base stations;

means for receiving a measure of radio link quality experienced by said base stations during the data packet transmission;

a posteriori selecting means for selecting, based upon said measures, one of said base stations after said packet has been transmitted from the mobile station; or, alternatively, a priori selecting means comprising means for predicting the radio link quality and adapted for selecting one of said base stations based on prediction of said radio link qualities before said packet is transmitted; and,

means for transmitting uplink information on which of the active set base stations that is selected for the packet to be forwarded on a fixed link by the selected base station.

34. (New) The mobile station of claim 33, further comprising means for receiving packets transmitted from two or more radio base stations in parallel and combining the packets.

35. (New) The mobile station of claim 34, wherein said combining is maximum ratio combining.

36. (New) The mobile station of claim 33, wherein said measure of radio link quality is one or more acknowledgements on the receipt of the transmitted packets.

37. (New) The mobile station of claim 33, wherein said measure of radio link quality is a transmit power command received from said base stations.

38. (New) The mobile station of claim 33, wherein said measure of radio link quality is a signal to interference ratio.

39. (New) The mobile station of claim 33, further comprising means for segmenting the packet into segments fitting into radio blocks.

40. (New) The mobile station of claim 39, as dependent on the a posteriori selection, wherein the mobile station power control is controlled by power commands received only from one or more of said base stations that have reported positive acknowledgements with respect to the transmitted segments of the relevant packet.

41. (New) The mobile station of claim 33, adapted for transmitting the information on the priori selected base station with the relevant packet.

42. (New) The mobile station of claim 33, wherein said prediction means uses a measure of radio link quality received in response to one or more previously transmitted packets.

43. (New) The mobile station of claim 33, operative to adjust its output power to the commands received from the a priori selected base station only.

44. (New) A base station having means to receive a packet from a mobile station and means to send an acknowledgement to the mobile station in response to the received packet, said base station comprising:

detecting means for detecting information from the mobile station on a specific base station being selected; and,

means for selectively forwarding the received packet further in a connected radio network when said detecting means detects the base station is being selected.

45. (New) The base station of claim 44, adapted for receiving said information subsequent to the packet being received by the MS.

46. (New) The base station of claim 44, adapted for receiving said information with said packet.

47. (New) The base station of claim 44, wherein the detection means are adapted for receiving the selection information on a packet-by-packet basis.

48. (New) The base station of claim 44, further comprising means for timing downlink transmission of radio frames by use of a synchronisation signal received via an interface to a fixed part of the network for parallel transmission of radio frames from all base stations of an active set.

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